

Amendment and Response

Applicant: Curtis Gregory Kelsay

Serial No.: 09/491,994

Filed: January 26, 2000

Docket No.: 10990356-2

Title: AN OPTICAL INTERLINK BETWEEN AN OPTICAL TRANSDUCER AND OPTICAL DATA PORT**IN THE CLAIMS**

Please add claims 51-55.

Please amend claims 45-49 as follows:

1-41. (Cancelled)

42. (Previously Presented) A printer, comprising:

a housing;

a print engine disposed within the housing;

a printed circuit assembly disposed within the housing;

a direct wire port electrically coupled to the printed circuit assembly;

an optical transducer electrically coupled to the printed circuit assembly and configured to transmit and receive information optically;

an optical data port formed in the housing; and

a light pipe assembly optically coupling and providing bi-directional communication between the optical transducer and the optical data port.

43. (Cancelled)

44. (Cancelled)

45. (Currently Amended) The apparatus-printer of claim 42, wherein the light pipe assembly includes a transmit light pipe adapted to optically transmit information from the optical transducer to the optical data port, and a receive light pipe adapted to optically receive information via the optical data port and optically transmit the received information to the optical transducer.46. (Currently Amended) The apparatus-printer of claim 45, wherein the optical data port is arranged to communicate with an open environment, and wherein the transmit light pipe is configured to exit and diverge light from the optical data port to the open environment, and

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the receive light pipe is configured to converge light from the open environment on the optical transducer.

| 47. (Currently Amended) The apparatus-printer of claim 46, wherein the light pipe assembly further includes a transmit lens configured to increase an angle of illumination of light exiting the optical data port to the open environment, and a receive lens configured to collimate light from the open environment into the receive light pipe.

| 48. (Currently Amended) The apparatus-printer of claim 42,
wherein the housing has a first side and a second side,
wherein the printed circuit assembly, the optical transducer, and the light pipe assembly are disposed within the housing, and
wherein the direct wire port communicates with the first side of the housing and the optical data port communicates with the second side of the housing.

| 49. (Currently Amended) The apparatus-printer of claim 48, wherein the second side of the housing is opposite the first side of the housing.

50. (Cancelled)

51. (New) The printer of claim 42, further comprising:
a light source electrically coupled to the printed circuit assembly; and
a light guide optically coupling the light source and the optical data port.

52. (New) A printer, comprising:
a printer housing;
a print engine disposed within the printer housing;
a printed circuit assembly disposed within the printer housing;
a direct wire port electrically coupled to the printed circuit assembly;
an optical transducer electrically coupled to the printed circuit assembly and configured to transmit and receive information optically;

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an optical data port formed in the printer housing and arranged to communicate with an open environment;

a transmit light pipe disposed within the printer housing and adapted to optically transmit information from the optical transducer to the optical data port; and

a receive light pipe disposed within the printer housing and adapted to optically receive information via the optical data port and optically transmit the received information to the optical transducer.

53. (New) The printer of claim 52, wherein the transmit light pipe is configured to exit and diverge light from the optical data port to the open environment, and the receive light pipe is configured to converge light from the open environment on the optical transducer.

54. (New) The printer of claim 52, further comprising:

a transmit lens provided at an end of the transmit light pipe, wherein the transmit lens is configured to increase an angle of illumination of light exiting the optical data port to the open environment; and

a receive lens provided at an end of the receive light pipe, wherein the receive lens is configured to collimate light from the open environment into the receive light pipe.

55. (New) The printer of claim 52, further comprising:

a light source electrically coupled to the printed circuit assembly; and
a light guide disposed within the printer housing and extended between the light source and the optical data port, wherein the light guide is adapted to transmit light from the light source to the open environment.